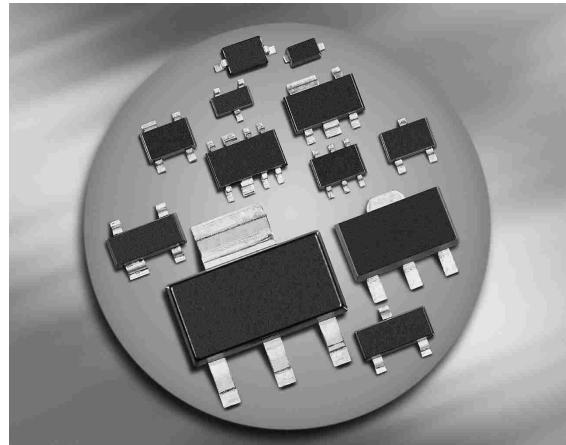
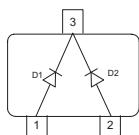


Silicon Variable Capacitance Diode

- For FM radio tuner with extended frequency band 77MHz to 108MHz
- Designed for application requiring back-to-back diode configuration for optimum signal distortion and detuning
- High tuning ratio at low supply voltage (car radio)
- Monolithic chip (common cathode) for perfect dual diode tracking
- Good C- V linearity
- High figure of merit



BB844



Type	Package	Configuration	L_s (nH)	Marking
BB844	SOT23	common cathode	1.8	SNs

Maximum Ratings at $T_A = 25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	18	V
Peak reverse voltage	V_{RM}	20	
Forward current	I_F	50	mA
Operating temperature range	T_{op}	-55 ... 150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 ... 150	

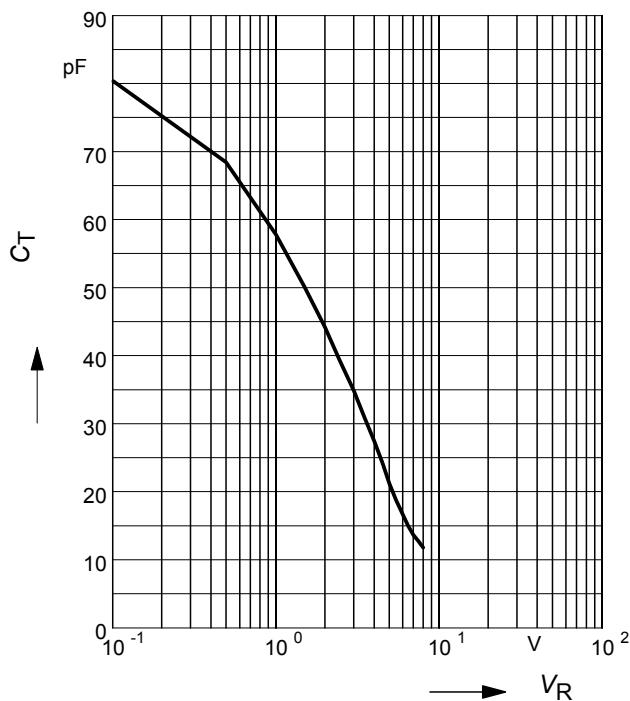
Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Reverse current $V_R = 16 \text{ V}$ $V_R = 16 \text{ V}, T_A = 85^\circ\text{C}$	I_R	- -	- -	20 200	nA
AC Characteristics					
Diode capacitance $V_R = 2 \text{ V}, f = 1 \text{ MHz}$ $V_R = 4 \text{ V}, f = 1 \text{ MHz}$ $V_R = 8 \text{ V}, f = 1 \text{ MHz}$	C_T	42.5 25 10	43.75 27 11.5	45 29 13	pF
Capacitance ratio $V_R = 2 \text{ V}, V_R = 8 \text{ V}, f = 1 \text{ MHz}$	C_{T2}/C_{T8}	3.2	3.8	-	
Capacitance matching ¹⁾ $V_R = 2 \text{ V to } 8 \text{ V}, f = 1 \text{ MHz}$	$\Delta C_T/C_T$	-	-	1.5	%
Series resistance $V_R = 2 \text{ V}, f = 100 \text{ MHz}$	r_S	-	0.28	-	Ω

¹For details please refer to Application Note 047.

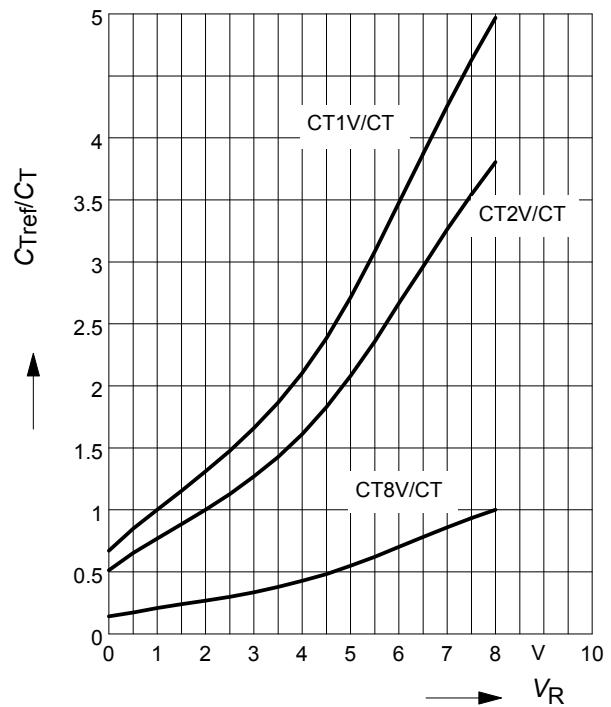
Diode capacitance $C_T = f (V_R)$

$f = 1\text{MHz}$



Capacitance ratio $C_{T\text{ref}}/C_T = f (V_R)$

$f = 1\text{MHz}$



Temperature coefficient of the diode capacitance $T_{Cc} = f (V_R)$

$f = 1\text{MHz}$

